

Valley Lake (19-0348) City of Lakeville

Valley Lake is located in the City of Lakeville (Dakota County). The surface area of the lake is 8 acres, and it has a maximum depth of 3.2 m (10 ft). The entire lake is considered littoral zone, which is the shallow 0 – 15 feet depth zone that is typically dominated by aquatic plants. Since the lake is relatively shallow, it does not maintain a thermocline, which is a density gradient caused by changing water temperatures throughout the water column. The MN DNR has designated the lake as being infested with Eurasian water milfoil (*Myriophyllum spicatum*).

The lake has been involved in a project in which barley straw or crushed corn was added to the lake in an attempt to inhibit algal populations. CAMP data were used to evaluate the effectiveness of these additions. Refer to McComas and Stuckert (2009b) for details on the project.

On each sampling day the lake was monitored for total phosphorus (TP), chlorophyll-a (CLA), total kjeldahl nitrogen (TKN), and secchi transparency, as well as the lake's perceived physical condition and recreational suitability. The resulting data are summarized in tables and figures on the following page.

2009 summer (May-September) data summary

<i>Parameter</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Grade</i>
TP (µg/l)	57.0	32.0	88.0	C
CLA (µg/l)	6.5	2.0	15.0	A
Secchi (m)	2.3	1.7	3.3	B
TKN (mg/l)	0.95	0.79	1.20	
Lake Grade				B

The lake received a lake grade of B for 2009, which is consistent with the lake's historical water quality database. The lake grades have varied in the range of B to D for the past 15 years.

Throughout the monitoring period, the volunteer's opinions of the lake's physical condition and recreational suitability were ranked on a 1-to-5 scale. These user perception rankings are shown on the following page.

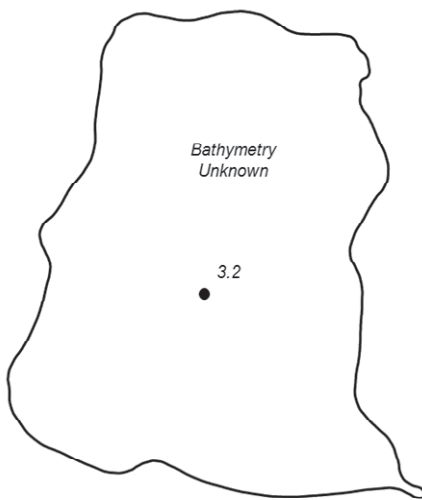
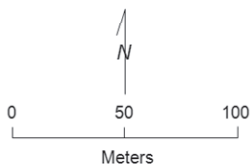
The Fisheries Section of the Minnesota Department of Natural Resources (MDNR) has conducted a fisheries survey on the lake. Information on the survey can be obtained through the MDNR Fisheries Section by calling (651) 259-5831 or by downloading the information off the Internet at <http://www.dnr.state.mn.us/lakefind/>.

If you notice any errors in the lake's data or physical information, or are aware of any additional or missing information, please contact Brian Johnson of the Metropolitan Council at (651) 602-8743 or brian.johnson@metc.state.mn.us.

Valley Lake Lakeville, Dakota Co.

Lake ID: 190348-00
WMO: Vermillion River
Volunteers: Lakeville
City Staff

● Sampling site
Contours in meters



2009 Data

DATE	Surf Tmp (°C)	Bot Tmp (°C)	Surf DO (mg/L)	Bot DO (mg/L)	CLA (µg/L)	Surf TP (µg/L)	Bot TP (µg/L)	Secchi (m)	PC	RS
4/13	11				7.3	40		1.5	2	1
5/1	14				15	38		1.7	2	2
5/11	15				5.4	32		2.0	2	1
5/27	19.7				10	51		1.9	1	2
6/11					7.8	43		2.0	2	2
6/26	27				2	43		3.1	2	2
7/10	25				5.9	72		3.3	2	3
7/22	23				7	73		2.0	3	3
8/4	26				6.7	79		2.2	3	3
8/14	25.4				7.6	88		2.5	2	2
8/31	22.8				4.7	53		2.5	3	3
9/17	22.8				2.7	54		2.5	2	3
9/29	17.7				2.6	58		2.3	3	4
10/19	6.3				2.6	34		2.5	2	3

Lake Water Quality Grades Based on Summertime Averages

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Total Phosphorus												
Chlorophyll a												
Secchi Depth												
Lake Grade												

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total Phosphorus				D	D	C			C	C	C	C
Chlorophyll a				C	C	C		C	B	A	A	B
Secchi Depth				D	D	D		D	C	C	B	B
Lake Grade				D	D	C		C	B	B	B	B

Year	2004	2005	2006	2007	2008	2009
Total Phosphorus	C	C	D	D	C	C
Chlorophyll a	C	C	D	C	C	A
Secchi Depth	C	C	D	C	C	B
Lake Grade	C	C	D	C	C	B

Source: Metropolitan Council and STORET data

